STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION

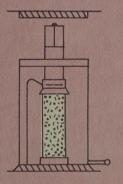
RAYMOND T. SCHULER, COMMISSIONER

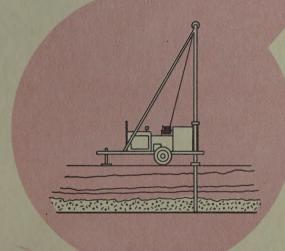


SOIL MECHANICS
BUREAU



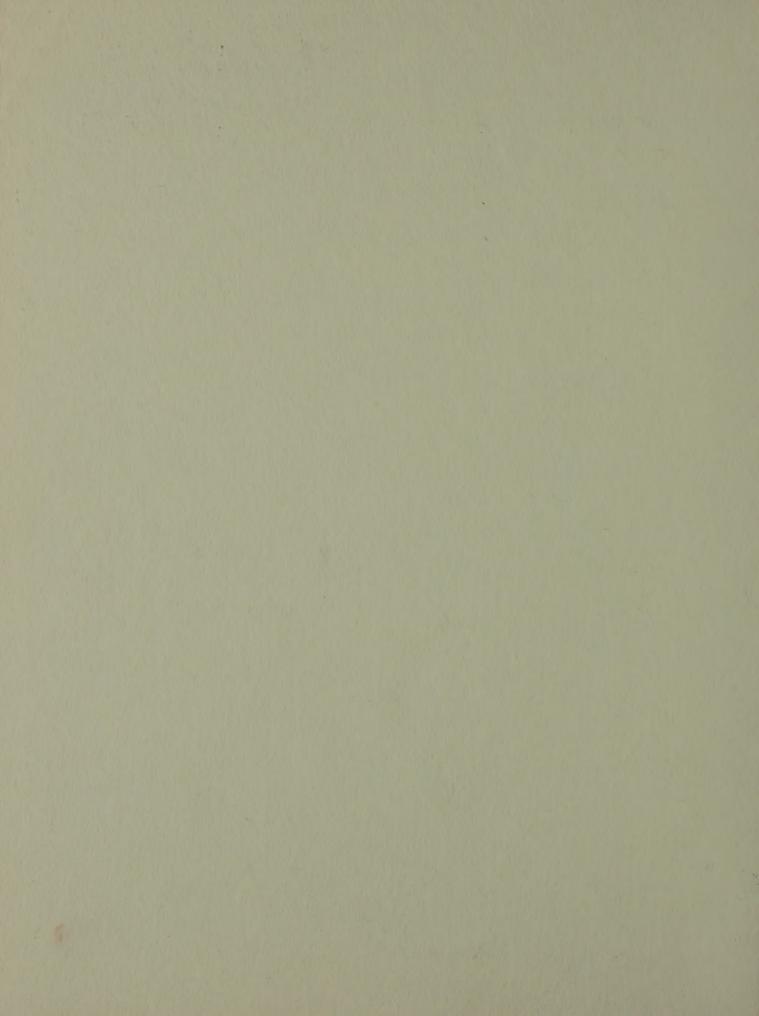






OQUAGA STATE PARK
TEST WELLS
BROOME COUNTY
OGS PROJECT NO. M-0108
P.I.N. E101.09-701

MAY 1975



NEW YORK STATE DEPARTMENT OF TRANSPORTATION

Raymond T. Schuler, Commissioner



1220 Washington Avenue, State Campus, Albany, New York 12226

May 16, 1975

Mr. Harry Stevens, Jr., Director Office of General Services Public Bldgs. Design and Construction Group, 34th Floor Empire State Plaza Tower Albany, New York

Attention: Mr. R. W. Wilson

Dear Mr. Stevens:

Project: Oquaga State Park

Test Wells Broome County

OGS Proj. No. M-0108

PIN E10109.701

Subject: Transmittal of Test Well Results

In accordance with your request, this Bureau's Engineering Geology Section has completed an evaluation of four test wells progressed at the project site.

A copy of this review, contained in a memorandum from Mr. R. Brito to Mr. B. Butler, both of this Bureau, is attached.

We will be pleased to provide further assistance or review of this project, if desired.

Very truly yours,

Lyndon H. Moore, Director Soil Mechanics Bureau

Ву

Bernard E. Butler Associate Soils Engineer

BEB:WRB:MVM
Attachment

Library
50 Wolf Road, POD 34
Albany, New York 12232

cc: Mr. M. D. Graham Mr. J. K. Connors (2) TOTAL TOTAL STATE OF THE PARTY OF THE PARTY

NAME AND POST OFFICE ADDRESS OF THE OWNER, THE PARTY OF

May 18; 19:5

THE PARTY SERVICES TO SERVICES AND SERVICES

ACCORDING NO. S. W. Wilson

Rest Mr. Stevens

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Subject framewheel of fact Well Results

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A copy of this review, contrions to a constander from Mr. R. Brico to Mr. S. Bucket, both of this Bureau, is accorded,

onto project, if desired.

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Ignous A. Moore, Director

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THE REAL PROPERTY.

PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS

eet Mr. Mr. D. Granma

DATE April 28, 1975

SUBJECT M-0108

TEST WELLS - OQUAGA CREEK STATE PARK, BROOME COUNTY

FROM R. Brito, Junior Engineering Geologist

TO B. Butler, Associate Soils Engineer

The Office of General Services requested the assistance of an Engineering Geologist to provide geologic interpretation and evaluation to Messrs. Edward Mosher, Engineer In Charge and Charles Simons, Inspector in the construction of four six inch test wells at the subject project. All of the wells were drilled ten inch oversized through overburden and ten feet into rock to facilitate grouting.

Construction of Well No. 3 commenced on November 15, 1974 and by November 17 drilling had progressed to a depth of 60 feet. Due to poor weather conditions, construction on Well No. 3 was temporarily terminated. Construction of this well resumed on December 17, 1974 and progressed to bed rock, which was encountered at a depth of 129 feet. The overburden consisted of brown till from two to 129 feet with no water present. At the interface between overburden and bed rock there was approximately two gallons per minute. Messrs. Mosher, Simon and the writer agreed to proceed into rock in an attempt to obtain the required amount of water (25 gpm) from this well. The drillers were instructed to drill ten feet into rock to a depth of 140 feet and grout the six inch casing from 130 to 140 feet. The bedrock consisted of dark gray layers of sandy shale. Small amounts of water were encountered the entire length of the well to a depth of 320 feet. A yield test was made and the yield was 24 gpm, with the air pipe at the 320 foot level. The yield was increased to 29 gpm after two hours of development with air from the rotary drilling rig. The well was disinfected and a tamper-proof cap was placed pending a pump test.

Construction of Well No. 4 began on January 8, 1975 and a depth of 122 feet was reached that day with no noticeable amounts of water encountered in the overburden. The overburden consisted of brown till from two to 122 feet, much the same as Well No. 3. At the interface between overburden and rock approximately five gpm was encountered; not enough water to satisfy well specifications. It was decided to proceed into rock to obtain the required amount of water. The six inch casing was grouted ten feet into rock to a depth of 135 feet. The bedrock consisted of layers of dark gray sandy shale to a depth of 200 feet. Most of the water was encountered at a zone between the 185-200 foot level, with a yield of 40 gpm. After developing Well No. 4 with air for two hours and increasing the yield to 45 gpm the well was disinfected and a tamper-proof cap was installed until a pump test could be performed.

On January 21, 1975 construction of Well No. 2 commenced to a depth of 112 feet at which time bedrock was encountered. The overburden consisted of brown till from two to 112 feet which contained no water. Potential yield was estimated at four gpm at the interface between overburden and bedrock and it was decided

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THE WILLS - COULDA CHEEK STATE PARK, SHOULD COUNTY

St. Brito, Junior Engineering Ownerlet

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The selection of the line is began on demons of 1975 and a depth of 12 feet one of the teat of the tea

On Juneary 22, 1975 covering to the life overfeet of commenced to a depth of 122 feet at 2 miles the time to be self-best time and the self-best of the self-be

E. Moody April 28, 1975 Page Two

to progress the hole into bedrock. The casing was grouted ten feet into rock to a depth of 130 feet and the hole was advanced to a depth of 200 feet before any water was encountered (approximately one-half gpm). Varying amounts of water were encountered from 215 feet to 320 feet with the major source coming from a zone between the 260-320 foot level, approximately 20 gpm. The well was developed with air for seven hours with a final yield of 31.5 gpm, with the air pipe at the 320 foot level. The well was disinfected and a tamper-proof cap was installed, pending a pump test.

Construction of Well No. 1 commenced on January 30, 1975 and proceeded to a depth of 100 feet. The overburden consisted of a brown till two to 100 feet with some groundwater present at a zone between 10 and 15 feet. A water bearing gravel was encountered at a depth of approximately 100 feet and extended to a depth of 130 feet. The six inch drill hole was extended approximately three feet through the gravel bed and into bedrock for a seat. Samples of gravel collected every five feet, were taken to the Johnson Division, Universal Oil Products Co., Thorofare, New Jersey, for analysis. After setting a 20 foot long 80 slot size stainless steel screen (recommended by Johnson), the hole was developed with air for ten hours. The yield of this well was approximately 100 gpm with the air pipe at the 130 foot level. The annular space around the permanent casing was grouted from the ground surface to a depth of 26 feet. The well was disinfected, and a tamper-proof cap was installed until a pump test could be performed.

Special consideration should be given to pumping rates and recoveries of wells Nos. 1 and 2. When Well No. 1 was pumped, the head of Well No. 2 dropped 37 feet, and when Well No. 2 was pumped, the head of Well No. 1 dropped 12 feet. This drop in head shows that these two wells interfere. The most important factor to be considered is the rate at which these two wells recovered, approximately six days for total recovery. This recovery rate indicates to the writer that the aquafer might be of a limited nature. Consideration might be given to performing a yield test after the lake is filled as there is a possibility that the lake might provide additional recharge to these wells.

Diagrams and results of pump tests for all wells are attached. Samples of water were taken from each well at the conclusion of each pump test and submitted to the New York State Department of Health, Division of Laboratories and Research in Syracuse, New York for water quality analysis.

RB:MF

in programs his hole into bedrook. The mains was prouded ten feet into rook to property of 120 feet and the lock was sevened to a depth of 201 feet before any eases was exampled and the contract of 201 feet before any eases and eases was excepted from 215 feet his total feet and the calor source could be a some between the seven heavy approximately 20 gm. The well was developed with air for seven heavy atte a final yield of 31.5 gps. with the air play at the 120 feet level. The well was disinfected and a target-

depth of 100 feet. The overburder commenced of a name till two to 100 feet with some continued to a count between 10 and 15 feet. A some best to a count between 10 and 15 feet. A some best best and apply to 100 feet a count best and a count best and apply to 100 feet apply to 100 feet and 100 feet apply to 100 feet and 100 feet and 100 feet apply to 100 feet app

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The drug th mesh shows then cheese two wells interfers. The most important feeter to be expected to the rate at which these two wells recovered.

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OQUAGA CREEK STATE PARK

PHASE II TEST WELL NUMBER 1

CONTINUOUS YIELD TEST

Static Level prior to test - 11.5 feet below original ground surface
Pump Intake during test - 109.0 feet below original ground surface

					Observation Well No. 2	
Date	Time	Rate I	ynamic Level (Feet)	Drawdown (Feet)	Drawdown (Feet)	Remarks
2/18/75	11:45 am	105	11.5	. 0	0	yield manually
	11:50 am	112	43.0	31.5		increased
	12:00 noon	112	52.0	40.5		
	12:30 pm	112	62.0	50.5	3.9	
	1:30 pm	112	71.8	60.3		-
	1:45 pm	107	74.3	62.8		yield not manually decreased
	2:00 pm	107	75.3	63.8	12.0	accicabça
	3:00 pm	107	82.0	70.5		
	3:20 pm	105	83.0	71.5		yield not manually decreased
	4:20 pm	105 ·	85.0	73.5		doordabad
	5:20 pm	105	87.0	75.5	16.5	
	6:20 pm	101	89.5	78.0		yield not manually decreased
	7:20 pm	100	92.0	80.5		not manually decreased
	8:00 pm	100	94.0	82.5		400104004
	9:00 pm	97	96.0	84.5	24.0	yield not manually decreased
	10:00 pm	97	96.0	84.5	0.00	
	11:00 pm	97	99	87.5		

DOUBLE STATE PARK

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Starte Level selec to reat - 11.5 feet below original ground surface Russ interest crowns out at the

<u>Date</u>	<u>Time</u>	Rate (GPM)	Dynamic Level(Feet)	Drawdown (Feet)	Observation Well No. 2 Drawdown (Feet)	Remarks
2/19/75	12:00 midnight	95	99	87.5	27.4	yield not manually decreased
	1:00 am	92	102	90.5		yield not manually decreased
	2:00 am	89	105	93.5		yield not manually decreased
	3:00 am	89	105	93.5		
	4:00 am	89	105	93.5		2 1 2 A 1 2 A 1 2 A 1 2 A 1 A 1 A 1 A 1
	5:00 am	88	106	94.5		yield not manually decreased
	6:00 am	88	106	94.5		
	7:00 am	87	106	94.5		yield not manually
	8:00 am	87	106	94.5	34.0	decreased
	9:00 am	86	106	94.5		yield not manually decreased .
	9:30 am	75	96	84.5		yield decreased manually
*	10:00 am	70	95.5	84.0		yield not manually decreased
	11:00 am	70	95.0	83.5	35.1	decleased
	11:45 am	70	95.0	83.5		
	11:45 am		END PUMP	TEST		

Date	Time	Rate (GPM)	Dynamic Level (Feet)	Remarks
2/19/75	4:45 pm 5:14 pm 5:35 pm 6:00 pm 6:25 pm 7:00 pm 8:00 pm 8:45 pm	108 100 89 77 77 77 77	95 97 97 93.5 92.5 92.5 92.5	yield manually decreased yield manually decreased yield manually decreased
	8:45 pm		END PUMP TEST	



RECOVERY WELL NO. 1

Date	Time	Static Level (Feet)	Residual Head (Feet)	Remarks
2/19/75	8:47 pm 9:56 pm	89.0	77.5 47.5	
2/20/75	6:46 am 1:26 pm	41.5 35.0	30.0 23.5	
2/21/75	9:26 am 7:50 pm	25.3 17.5	13.8 6.0	
2/24/75	9:10 am	12.6	1.2	
2/25/75	11:00 am	11.5	0	

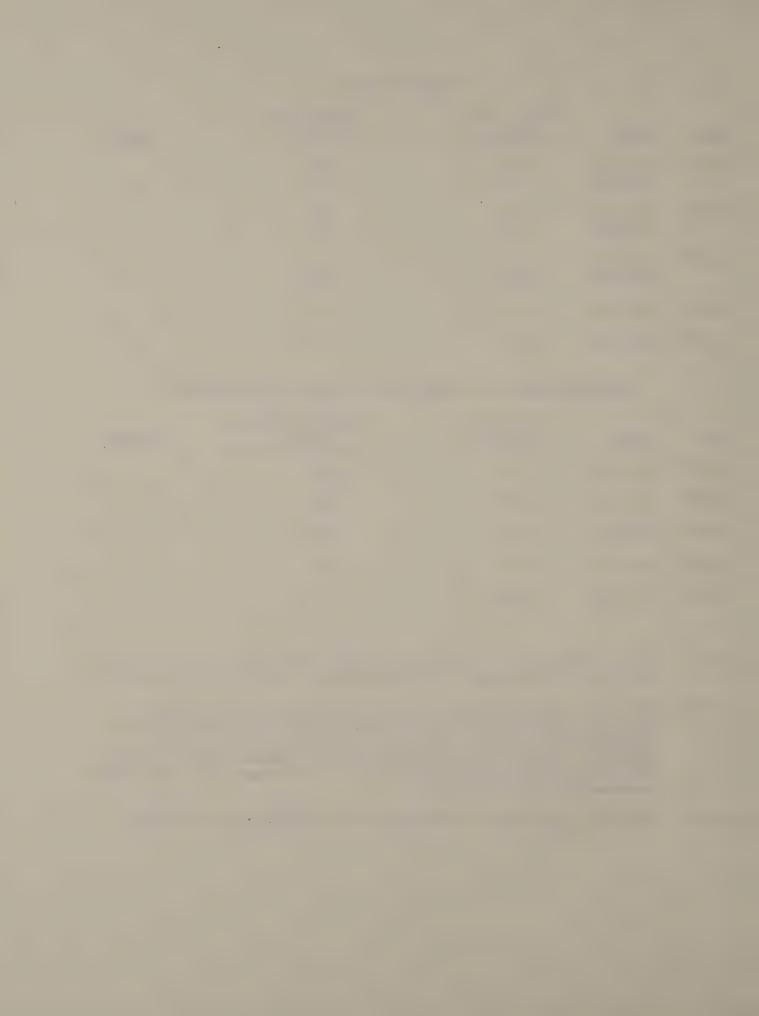
RECOVERY WELL NO. 2 AFTER PUMP TEST COMPLETED ON WELL NO. 1

Date	<u>Time</u>	Static Level (Feet)	Residual Drawdown (Feet)	Remarks
2/19/75	9:00 pm	70.0	35.0	
2/20/75	6:50 am	59.9	24.5	
2/21/75	9:30 am	49.9	14.9	~~
2/24/75	9:15 am	38.3	3.3	
2/25/75	11:15 am	36.0	1.0	

- Note (1) Eratic pumping rate is due to the turbine pump supplied by the Contractor.

 The nature of this pump is to slowly decrease yield of its own accord.
- Note (2) Well No. 1 was re-developed on the recommendation of the drillers.

 The method used was to raise the water level in the casing and let it fall back into the well, developing a push-pull action, causing additional fine particles to be drawn out of the water bearing gravel and through the screen into the well. It was thought this method might increase the yield of the well.
- Note (3) Well No. 1 was pumped an additional four hours at a rate of 77 gpm.



OQUAGA CREEK PARK PHASE II TEST WELL NUMBER 2

STEP DRAWDOWN TEST

Static Level prior to pump test - 35.0 feet below ground surface

Pump Intake during test - 310 feet below ground surface

					Observation Well No. 1	
Date	Time	Rate (GPM)	Dynamic Level (Feet)	Drawdown (Feet)	Drawdown (Feet)	Remarks
2/12/75	2:15 pm	10	35.0	0		
	2:30 pm	10	45.0	10.0		
	2:45 pm	10	45.0	10.0		Stabilized drawdown
	2:45 pm	15		. [-, 1]		Increased yield
	3:00 pm	15	56.0	21.0		Stabilized drawdown
	3:00 pm	20				Increased yield
	9:00 pm	20	78.0	43.0		Stabilized drawdown
	9:00 pm	25	• • • • • • • • • • • • • • • • • • •	-		Increased yield
	10:00 pm	25	87.0	52.0	1.9	Stabilized drawdown
	10:00 pm	30	-			Increased yield
2/13/75	12:00	30	101.0	66.0	4.0	Stabilized drawdown
	midnight 12:00	35				Increased yield
	midnight 2:30 am	35	123	88		Stabilized drawdown
	2:30 am	40	- 1	1981 - 1986	- :	Increased yield
	3:30 am	40	133	98		Stabilized drawdown
	3:30 am	45		- . ,	· •	Increase yield
	4:30 am	-	7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	•	7.1	
	5:30 am	45	173	138		Stabilized yield
	5:30 am	50	• 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		and president	Increase yield
	7:45 am	45	241	206	•	Yield not manually decreased
	2:15 pm	45	240	205	,11.6	Stabilized drawdown
	2:15 pm		PUMP TEST EN	DS		



OQUAGA CREEK PARK PHASE II TEST WELL NUMBER 3

STEP DRAWDOWN TEST

Static Level prior to test - Flowing over top of casing three feet above original ground surface

Pump Intake during test - 310.0 feet below original ground surface

Date	<u>Time</u>	Rate Dy (GPM)	ynamic Level (Feet)	Drawdown (Feet)	Remarks
1/15/75	11:45 am	10	<u> </u>	May - O	
	12:30 pm	10	22.5	25.5	Stabilized drawdown
	12:30 pm	15			Increased yield-
	12:45 pm	15	22.5	25.5	Stabilized drawdown
•	12:45 pm	20	-		Increased yield
	1:30 pm	20	45.0	48.0	Stabilized drawdown
	1:30 pm	25	-	= 1. 1	Increased yield
	2:30 pm	25	76.4	79.4	Stabilized drawdown
	2:30 pm	30	<u></u>		Increased yield
	3:30 pm	30	118.5	121.5	Stabilized drawdown
	3:30 pm	35	-	1. • 1	Increased yield
	4:15 pm	35	160.0	163.0	Stabilized drawdown
	4:15 pm	40			Increased yield
	5:30 pm	40	219.0	222.0	Drawdown not stabilized
•	6:30 pm	30	. -		Decreased yield
	8:30 pm	30	268.0	271.0	Stabilized drawdown
	8:30 pm	32	-	11. • · · · · · · · · · · · · · · · · · ·	Increased yield
1/16/75	12 midnight	32	275	278	Drawdown not stabilized
1/16/75	12°noon	32	277	280	Drawdown stabilized
	12:00 noon		END PUMP TES	ST	



RECOVERY WELL NUMBER 3

Date	Time	Static Level (Feet)	Residual Drawdown (Feet)	Remarks
1/16/75	12:00 noon	277.0	280.0	
	12:15 pm	90.0	93.0	
	12:30 pm	7.0	10.0	
	1:00 pm	1.0	4.0	
	1:15 pm	Flowing over top of casing	0	



OQUAGA CREEK PARK PHASE II TEST WELL NUMBER 4

STEP DRAWDOWN TEST WELL NUMBER 4

Static Level prior to test - 4.0 feet below original ground surface Pump Intake during test - 193 feet below original ground surface

Date	<u>Time</u>	Rate (GPM)	Dynamic Level (Feet)	Drawdown (Feet)	Remarks
1/16/75	6:00 pm	10	4.0	0	Pump test begins
,	6:30 pm	10	4.5	.5	Stabilized drawdown
	6:30 pm	15	-	-	Increased yield .
	7:00 pm	15	11.0	7.0	Stabilized drawdown
	7:00 pm	20 •	-	-	Increased yield
	7:45 pm	20	21.0	17.0	Stabilized Drawdown
	7:45 pm	25	-	-	Increased yield
	8:45 pm	25	290	25.0	Stabilized drawdown
	8:45 pm	. 30	-	-	Increased yield
	9:45 pm 9:45 pm	30 35	36,0	32,0	Stabilized drawdown Increased yield
•	10:45 pm	35	41.0	37.0	Stabilized drawdown
•	10:45 pm	40	-		Increased yield
	11:45 pm	40	56.0	. 52.0	Stabilized drawdown
	11:45 pm	45	. -	-	Increased yield
1/17/75	12:45 am	45	76.0	72.0	Stabilized drawdown
	12:45 am	50	-	- .	Increase yield
	1:45 am	50	81.0	77.0	Stabilized drawdown
	1:45 am	55	-	-	Increase yield
	2:45 am	55	105.0	101.0	Stabilized drawdown



Date	Time	Rate D	ynamic Level (Feet)	Drawdown (Feet)	Remarks
	2:45 am	60 -	. -	•	Increased yield
	3:15 pm	60	161.0	157.0	Drawdown not stabilized
	3:15 pm	50	-	- · · -	Decreased yield
	6:00 pm	50	156.0	152.0	Stabilized yield
	6:00 pm		END PUMP TES	ST	

RECOVERY WELL NO. 4

Date	Time	Static Level (Feet)	Residual Drawdown(Feet)	Remarks
1/17/75	6:10 pm	76.0	72.0	
	6:30 pm	18.5	14.5	
	6:50 pm	16.7	12.7	
	7:10 pm	15,9	11.9	

No readings taken during the night, by next morning static level 4 feet below ground surface.



Proj. No. M -Requesting De	ome 0108 pt. 0.G.S.	State of New York Dept. of Transportation Soil Mechanics Bureau TEST WELL LOG State Park Phase II		Test Well No. 1 Gr. Elev. 1599± Location N 796,300.00 E-204,852.00		
Depth, ft.	Grout	on	Driller EIC Inspector			
25 -	2-26 feet		Hole Diam Final Depth Casing Diam. Casing Lengt	Well Data 10 in. oversized 133 ft.		
75	Glacial Till (Brown 2-100 feet		Screen Type Screen Setti Gravel Pack Grout from gr Development	20 ft. 80 slot Johnson S.S.		
100	Gravel, some sand		Static Depth	Test Data to Water 11.5 ft.		
125	(Water Bearing) 100-130 feet Bedrock (Shale)	. •	Pumping Rate Date and Dur	cation 2/18/75 24 hrs73 gpm per foot		
150	Bottom of Drille	ed Well	Pump Setting Pumping Rate Remarks			



Region No	9	State of New York Dept. of Transportation	Test Well No. 2	
	Broome	Soil Mechanics Bureau	Gr. Elev. 1623±	
	M=0108	TEST WELL LOG	Location N 796,322	
Requestin	ng Dept. O.G.S.			
Project _	Test Wells Oquaga Creek S	tate Park Phace II		
			7 /07 /85	
Depth, f	t. Descript:		1/21/75	
		Contractor		
1	-	Driller		
		EIC		
		Inspector	Charles Simons	
1 7		· Rig Type		
40 7	Glacial Till			
1 40 _	Gradian IIII		Well Data	
	(brown)		10 in. oversized	
_	(510,111)		320 ft.	
-	2-112 feet	Casing Diam	6 in.	
80		Casing Leng	th <u>132 ft.</u> e Ground <u>2 ft.</u>	
-		Screen Type		
-		Screen Sett		
	•	Gravel Pack		
720	Rotten Rock 112-120 f		120 ft. to 130 ft.	
120	Rottell Rock 112-120 1	360		
	Grout 120-130 feet		7 hrs. with air in the	
	31040 120 170 1000	water	r bearing bedrock.	
160]				
	·		Total Dodge	
		Static Dont	Test Data n to Water 35 ft.	
_		Pump Sotting	310 ft.	
-	Bedrock	Pumping Rate	e 45 g.p.m.	
200 —	(3	2.4	ration 2/12/75 24 hrs.	
-	(dark grey sandy		pacity .21 gpm per foot	
-	112-320 feet			
-	,112-J20 1eet		Recommendations	
-		Pump Setting		
240		Pumping Rat	e 45 g.b.m.	
		Remarks		
280				
-		•		
-				
222				
320	Bottom of Drilled We	.1		
-				
360				
_				
-				
. 4				



Region No. County Proj. No.	Broome	Dept. of Transportation Soil Mechanics Bureau TEST WELL LOG		Test Well No. 3 Gr. Elev. 1637± Location N 798,340		
Requesting	Dept. Test wells Oquaga Creek			1 / 401,343		
	Descriptio		Date Start Date Finish Contractor Driller EIC Inspector	11/15/74 1/7/75 Raymond Randolph Paul Wehnau Edward Mosher Charles Simons Air Rotary		
40 +	Glacial Till (brown)		Final Depth Casing Diam. Casing Lengt	Well Data 10 in. oversized 320 ft. 6 in. h 142 ft.		
120	2-129 feet		Screen Type Screen Setti Gravel Pack Grout from	1 130 ft. to 140 ft.		
160	Grout 130-140 f	eet	from rota	2 hrs. using compressed ary drilling ris within the ring bedrock		
200	Bedrock		Pump Setting Pumping Rate Date and Dur	Test Data to Water Flowing over 310 ft. casis 32 gpm ation 1/15/75 24 hrs. acity .11 gpm per foot		
240	(dark gray sandy shall 129-320 feet	le)	Pump Setting Pumping Rate Remarks	Recommendations 310 ft. 32 gpm		
280						
320	Bottom of Drilled W	Well				
360	1,444.44	roko čpaky .				

State of New York



Region No.	9	
County	Broome	
Proj. No.	M-0108	
Requesting	Dept.	0.G.S.

State of New York Dept. of Transportation Soil Mechanics Bureau TEST WELL LOG

Test Well No. 4 Gr. Elev. 1646+ Location 11 798

-								
roject	Test W	ells	Oquaga	Creek	State	Park	Phase	II

Depth,	ft.	Description	Date Start 1/8/75
			Date Finish 1/14/75
			Contractor Raymond Randolph
			Driller Paul Wehnau
			EIC Edward Mosher
			Inspector Charles Simon
_		. •	Rig Type Rotary
25	-		M-11 D-4-
-			Well Data
-			Hole Diam. 10 in. oversized
-		Glacial Till	Final Depth 200 ft.
-			Casing Diam. 6 in. Casing Length 137 ft.
50	-	(brown)	Casing Above Ground 2 ft.
-			Screen Type None
		2-122 Feet	Screen Setting
-		•	Gravel Pack None
100			Grout from 125 ft, to 135 ft
100 -			
*			Development 2 hrs. with air in the
~			water bearing bedrock.
-			
125			
127	- R	otten Rock 122-125 feet	
7		107-107-1	Test Data
	G	rout 125-135 feet	Static Depth to Water 4 ft.
		•	Pump Setting 193 ft.
150			Pumping Rate 50 g.p.m.
170	- I	la dra al-	Date and Duration 1/16/75 24 crs.
		edrock	Specific Capacity
	(gray sandy shale)	
		gray sandy snare)	Recommendations
175	- 1	22-200 feet	Pump Setting 190 ft.
117	1	22 200 Teet	Pumping Rate 50 gom
			Domarks
_		· · · · · · · · · · · · · · · · · · ·	Remarks
_			
200	- 1		
-	В	ottom of Drilled Well	
4		202 2 1	
4		200 feet	
-			
225			



NEW YORK STATE DEPARTMENT OF HEALTH DIVISION OF LABORATORIES AND RESEARCH ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 1)

LAB ACCESSION NO: 04564 YR/MO/DAY/HR SAMPLE RECID: 75/02/20/13

REFORTING LAB: 30 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATICH (SQURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NU: 0361 CHUNTY: BROOME
COORDINATES: DEG ! "N" DEG ! "W
CEMMON NAME INCL SURN'SHED: DQUAGA STATE PARK ARTIC ROAD

EXACT SAMPLING POINT: WELL 1 WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MC/DAY/HR OF SAMPLING: FROM 00/00 TC 02/19/12

REPORT SENT TO: CO (0) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER			UNIT	RESULT	NOIATI
026800	STANDARD	PLATE COUNT 48 HR		7.	
027000	COLIFORM	BACT ME COL/100ML		1	LT

FROOME CO. HEALTH DEP.

DATE COMPLETED: 2/24/75

FEB 27 1975

BROOME COUNTY

HEALTH DEPT.

DIRECTOR OF ENVIRONMENTAL SANITATION RROOME COUNTY HEALTH DEPT 68 WATER STREET BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM



NEW YORK STATE DEPARTMENT OF HEALTH DIVISION OF LABORATORIFS AND RESEARCH FNVIRONMENTAL HEALTH CENTER

RESULTS UF EXAMINATION

(PAGE 1 OF 2)

LAR ACCESSION NO: 02227 YR/MO/DAY/HR SAMPLE REC.D: 75/02/20/13

REPORTING LAB: 33 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SQURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NU: 0361 CQUNTY: BROOME
COORDINATES: DEG ! "N", DEG " "W
COMMON NAME INCL SURW'SHED: OQUAGA ST.PK ARTIC RD

EXACT SAMPLING POINT: WELL NOT WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MC/DAY/HR OF SAMPLING: FROM 00/00 TO 02/19/12

REPURT SENT TO: CO (1) RO (0) LPHE (2) LHO (1) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
000100	COLOR (APPARENT)		15.	٠.
000200	TURBIDITY, J.T.U.		18.	
000300	COOR. HOT		1.0044	
000501	NITROGEN, AMMONIA AS N	MG/L	0,02	' LT
000709	NITROGEN, NITRYTE AS N	MCG/L	. 1.	
000801	NTTROGEN, NITRATE AS N	MG/L	0.1	LT
001001	CHLORIDES	MG/L	. 2.2	
001101	HARDNESS, TOTAL AS CACOS	MG/L	160,	
001501	ALKALINITY, MTH OR AS CACO3	MG/L	143.	
001900	PH (LABORATORY)		7.8	
006401	NITROGEN, KJELDAHL, INCL. AMM	MG/L	0.04	LT
006501	CHEMICAL DXYGEN DEMAND	MG/L '	4.	LT
010001	IRON	MG/L	1.9	

DATE COMPLETED: 2/26/75

TO & LOCAL HEALTH OFFICER

SUBMITTED BY: MOSHER



RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAP ACCESSION NO: 02227 YR/MO/DAY/HR SAMPLE RECID: 75/02/20/13

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NU: 0361 COUNTY: BROOME

COORDINATES: DEG ! "N", DEG ! "W

COMMON NAME INCL SUBWISHED: DQUAGA ST.PK ARTIC RD

EXACT SAMPLING POINT: WELL NOT WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/19/12

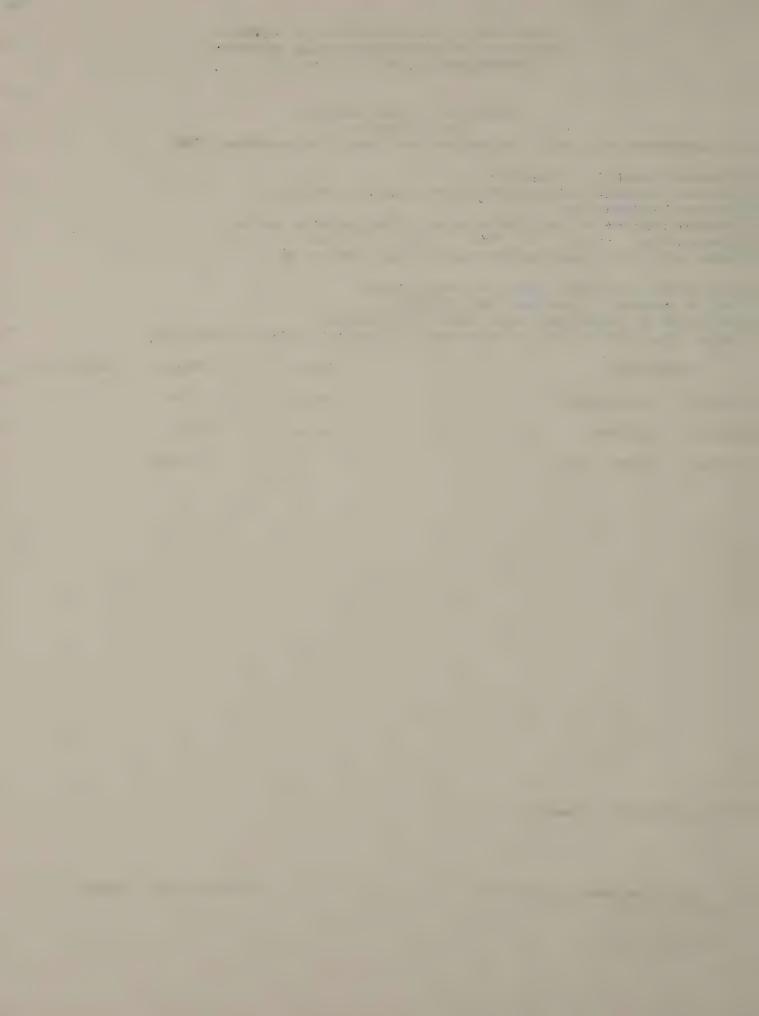
REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (1) FED (0) CHEM (0)

PARAMETER			UNTT		NOTATION
010201	MANGANESE		MG/L	0.02	J. JLT
010701	SODIUM		MG/L	50 #	
100300	onor, coln	•		1,0044	

DATE COMPLETED: 2/26/75

TO 1 LOCAL HEALTH OFFICER

SUBMITTED BY: MUSHER



RESULTS OF EXAMINATION (PAGE 1 OF 1)

LAB ACCESSION NO: 03964 YR/MOZDAYZHR SAMPLE REC'D: 75/02/13/16

ARFPORTING LAB: 30 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECPEATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N. DEG ' "W

COMMON NAME INCL SUBWISHED: OQUAGA STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NOS WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/13/14

REPORT SENT TO: CO (0) HO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
026800	STANDARD PLATE COUNT 48 HR	•	,3.	
027000	COLIFORM BACT MF COL/100ML		1	LT

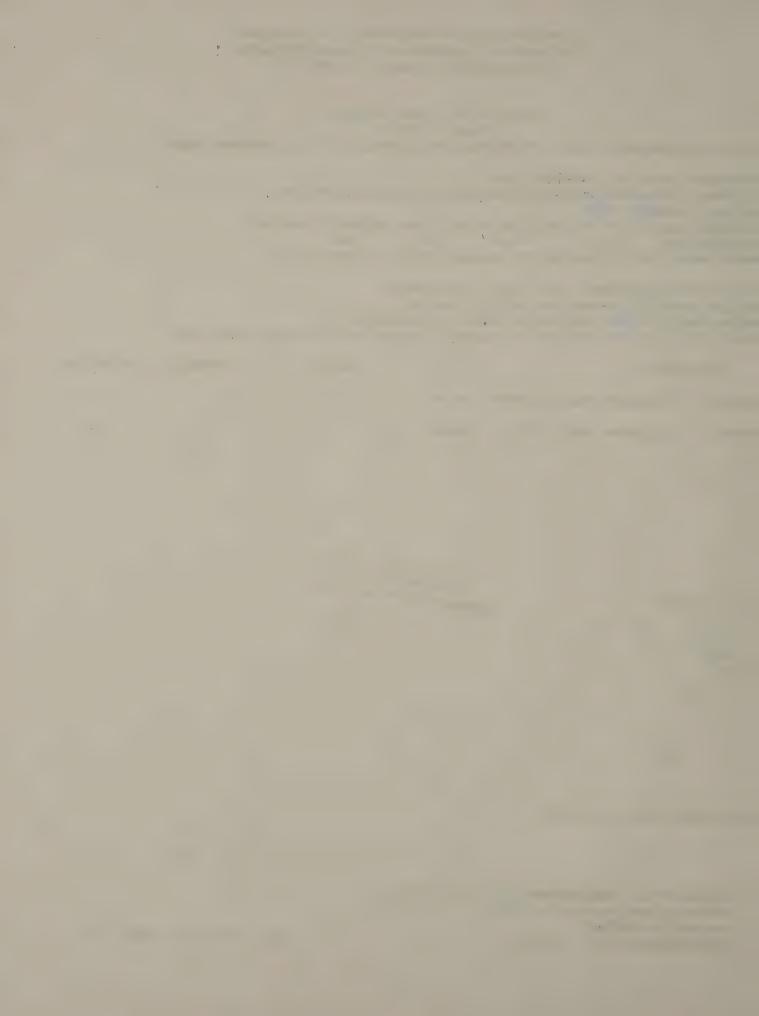
THE STATE OF THE S

SATISFACTORY AT THE
TIME OF SAMPLES OF BROOME CO. HEALTH DEPT

PATE COMPLETED: 2/18/75

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 68 WATER STREET BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM



RESULTS OF EXAMINATION (PAGE 1 OF 2)

LAB ACCESSIUN NO: 01911 YR/MO/DAY/HR SAMPLE REC'D: 75/02/14/08

REPORTING LAH: 33 SYRACUSE LAH

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ! "N. DEG ! "W

COMMON NAME INCL SUBWISHED: OQUAGA STATE PARK, ARTIC RD.

FXACT SAMPLING POINT: WELL #2-WELL SAMPLE TYPE OF SAMPLE: 12 WATER. DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM GO/OD TO 02/13/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

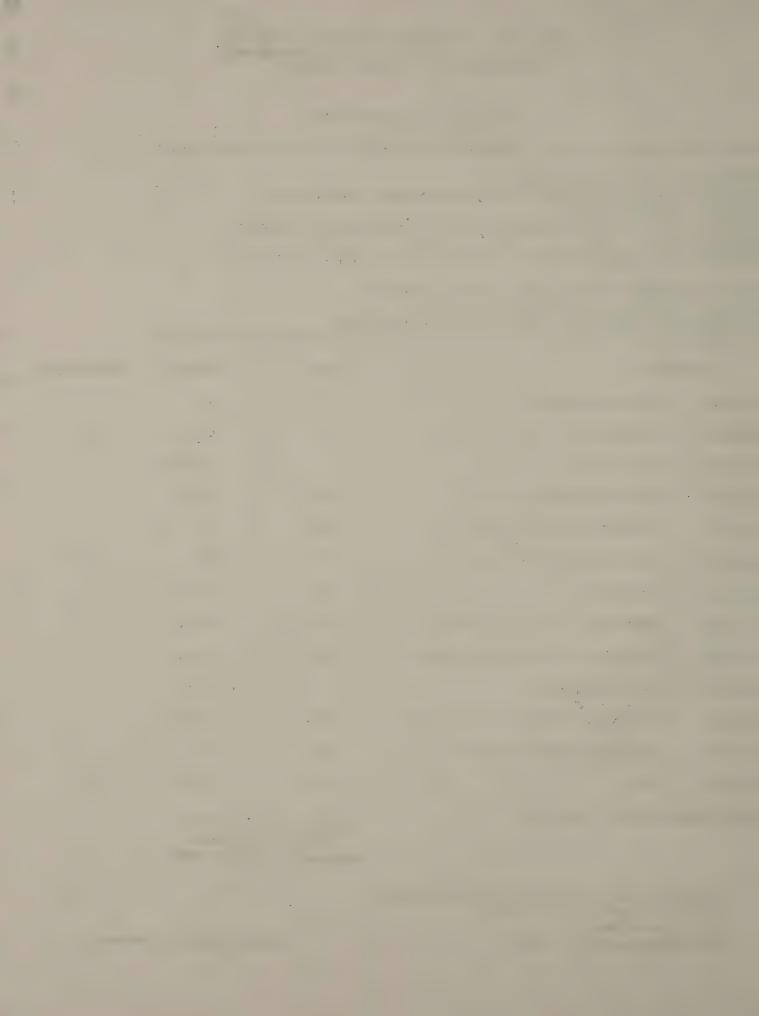
PARA	METER	UNII	RESULT NO	NOITATION
000100	CULOR (APPARENT)		1.	
000200	TURBIDITY, J.T.U.		0.5	LT
000300	ODUR, HOT		1.0044	
,000501	NITROGEN, AMMONIA AS N	MG/L	0.07	
000709	NITPOGEN.NITRITE AS N	MCG/L .	2.	
000801	NITROGEN.NITRATE AS N	MG/L	0.1	LT
001001	CHLORIDES	MG/L	8.5	
001101	HARDNESS. TOTAL AS CACO3	MG/L	108.	
001501	ALKALINITY - MTH OR AS CACO3	MG/L	136.	
001900	PH (LABORATORY)		8.1	
006401	NITROGEN. KJELDAHL. INCL. AMM	MG/L	0.07	
006501	CHEMICAL OXYGEN DEMAND	MG/L	4.	LT
010001	IRON	MG/L	0.02	Lī

DATE COMPLETED: 2/21/75

SATISFACTORY AT THE TIME OF SAMPLING BROCME CO. HEALTH DEPT.

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 68 WATER STREET BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER



RESULTS OF EXAMINATION (PAGE 2 OF 2)

LAS ACCESSION NO: 01911 YR/MO/DAY/HR SAMPLE REC'D: 75/02/14/08

REPORTING LAB: 33 SYRACUSE LAR

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N. DEG ' "W

COMMON NAME INCL SUBWISHED: ODUAGA STATE PARK, ARTIC RD.

DEXACT SAMPLING POINT: WELL #2-WELL SAMPLE TYPE OF SAMPLE: 12 WATER. DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/13/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER			UNIT	RESULT NOTATION
010201	MANGANESE		MG/L	0.06
010701	SODIUM	• •	MG/L	. 44.
100300	ODOR, COLD			1.0044

SATISFACTURY AT THE TIME OF SAMPLING BROOME CO. HEALTH DEPT.

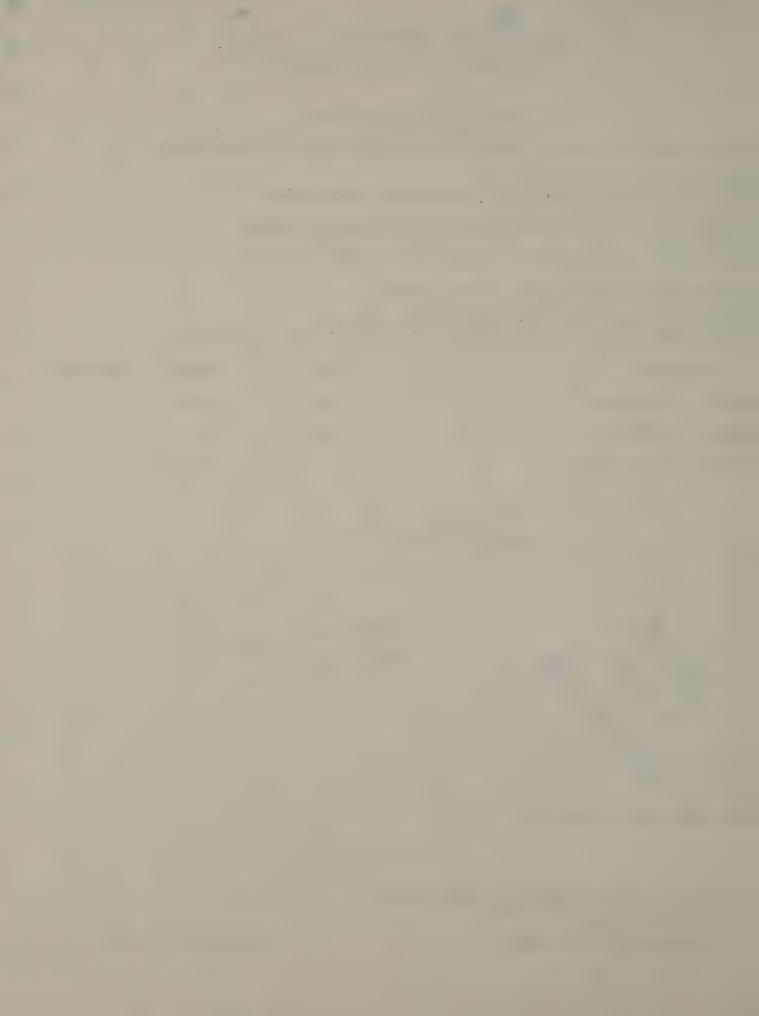
BROCME GO. NO. - IN DEPA

Philosophia Paris

DATE COMPLETED: 2/21/75

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 68 WATER STREET BINGHAMTON. N.Y. 13901

SUBMITTED BY: MOSHER



RESULTS OF EXAMINATION

(PAGE 1 OF 1).

LAP ACCESSION NO: 03537 YR/MO/DAY/FR SAMPLE PECID: 75/02/07/13

REPORTING LAB: 30 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SQURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME
CCORDINATES: DEG ! "N. DEG ! "W
CCMMON NAME INCL SUBHISHED: AQUAGA STATE PARK ARTIC RD

EXACT SAMPLING POINT: WELL NO 3 WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MC/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (0) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

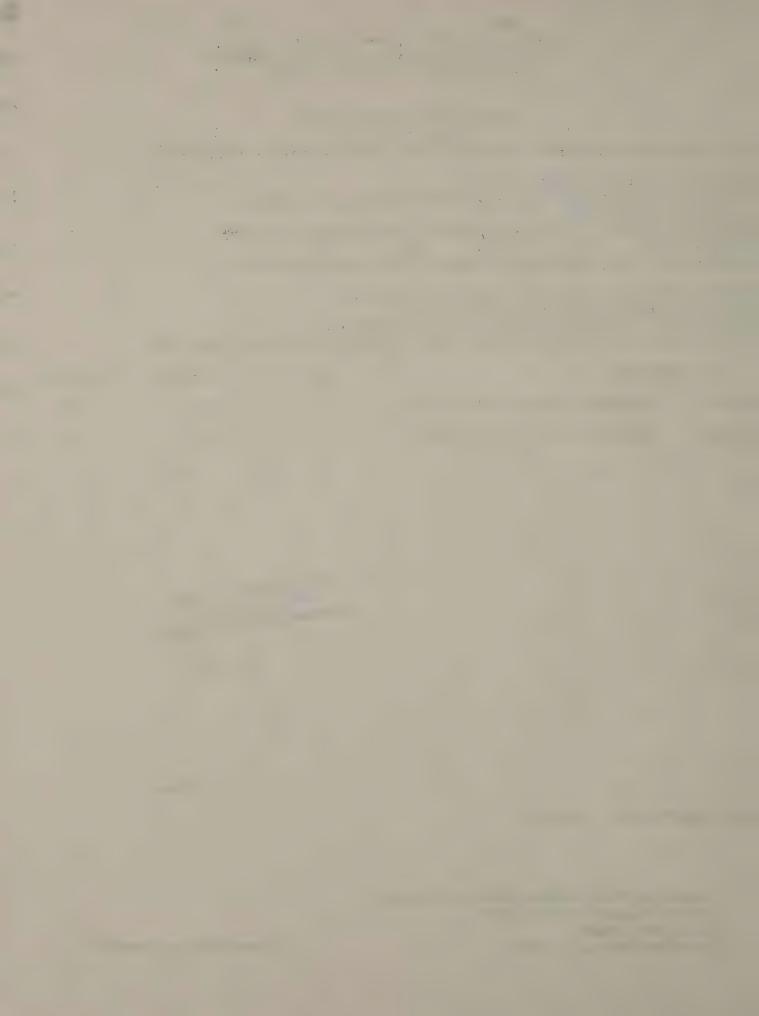
PAR	METER		UNIT	RESULT	NOTATION
026899	STANDARD P	LATE COUNT 48 HR		1.	LT
027000	COLIFORM B	ACT HE COL/100ML		1.	LT

SATISFACTORY AT THE TIME OF SAMPLING BROOME CO. HEALTH DEPT.

DATE COMPLETED: 2/10/75

DIRECTOR OF ENVIRONMENTAL SANITATION RROOME COUNTY HEALTH DEPT 6A WATER STREET, BINGHAMTON, N.Y. 13901

SUBMITTED BY: MUSHER



RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: C1693 YR/MO/DAY/HR SAMPLE REC*D: 75/02/07/13

REPORTING LAB: 33 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SOURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NU: 0361 COUNTY: BROOME
COCRDINATES: DEG ! "N» DEG ! "W
COMMON NAME INCL SUBWISHED: OQUAGE STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NO3 WELLSAMPLE.

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

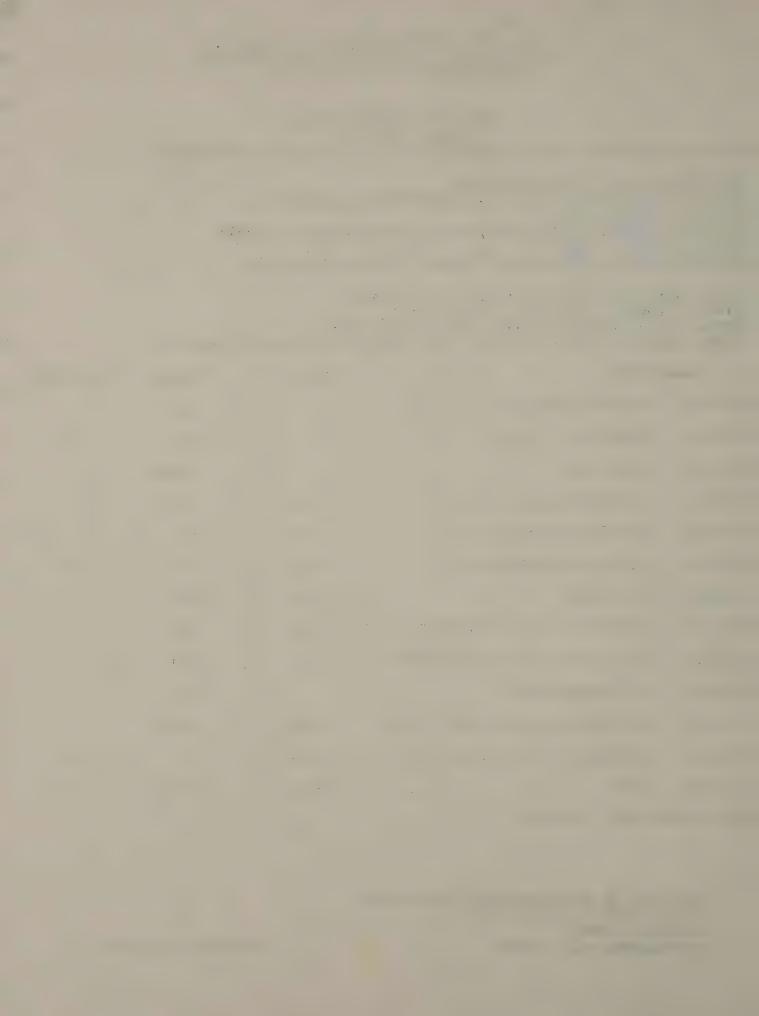
MC/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
000100	COLOR (APPARENT)		1.	
000200	TURBIDITY, J.T.U.		0.5	LT
000300	ODOR* HOT		1.0044	
000501	NITROGEN, AMMONIA AS N	MG/L	0,08	
000709	NITROGEN, NITRITE AS N	MCG/L	1.	
000801	NITROGEN, NITRATE AS N	MG/L	0.1	LT
001001	CHLORIDES	MG/L	23.	
001101	HARDNESS, TOTAL AS CACOS	MG/L	150.	
001501	ALKALINITY, MTH OR AS CACO3	MG/L	144.	
001900	PH (LABORATORY)		8.2	
006401	NITROGEN, KJELDAHL, INCL. APM	MG/L	0.08	
006501	CHEMICAL DXYGEN DEMAND	MG/L	4.	S LT
010001	IRON	MG/L	0.08	

DATE COMPLETED: 2/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 6A WATER STREET BINGHAMTON, N.Y. 13901



RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAP ACCESSION NO: 01693 YR/MO/DAY/HR SAMPLE REC'D: 75/02/07/13

REPORTING LAB: 33 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SOURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NU: 0361 COUNTY: BROOME
COURDINATES: DEG ! "N, DEG ! "W
COMMON NAME INCL SURWISHED: OQUAGE STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NO3 WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MOZDAYZHR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
010201	MANGANESE	MG/L	0.13	
010701	SODIUM	MG/L 1	60.	
100300	ODOR, COLD		1.0044	

BROOME CO. HEALTHODEPT.

SATISFACTORY AT THE TIME OF SAMPLING BROOME CO. HEALTH DEPT.

DATE COMPLETED: 2/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 68 WATER STREET BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM



RESULTS OF EXAMINATION

(PAGE 1 OF 1)

LAB ACCESSION NO: 03536 YR/MO/DAY/HR SAMPLE REC!D: 75/02/07/13

REPORTING LAB: 30 SYRACUSE LAB
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SOURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME
CCCEPTNATES: DEG ! "N, DEG ! "W
COMMON NAME INCL SURWISHED: DQUAGA STATE PARK ARTIC RD

EXACT SAMPLING POINT: WELL NO 4 WELL SAMPLE
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MC/PAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14
REPORT SENT TO: CO (0) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNTT	RESULT	NOTATION	
026800	STANDARD PLATE COUNT 48 HR		1,		
02700n	COLIFORM BACT MF COL/10CML		1.	LT	

SATISFACTURY AT THE TIME OF SAMPLING BROOME CO. HEALTH DEPT.

DATE COMPLETED: 2/10/75

DIRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 6P WATER STREET BINGHAMTON N.Y. 13901



RESULTS OF EXAMINATION (PAGE 1 OF 2)

LAB ACCESSION NO: 00690 YR/MO/DAY/HR SAMPLE REC+D: 75/01/20/0A

REFORTING LAB: 33 SYRACUSE LAR
PREGRAM: 120 RESIDENTIAL AND RECREATIONAL SANTTATION
STATION (SQURCE) NO:
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 CQUNTY: BRODME
COCROTNATES: DEG : "N, DEG ! "W
COMMON NAME INCL SURW'SHED: OQUAGA STATE PARK

EXACT SAMPLING POINT: WELL 4 WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MC/DAY/HR OF SAMPLING: FROM 00/00 TC 01/17/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARA	METER	HEALTH DEPT.	UNTT	RESULT NO	DITATION
000100	COLOR (APPARENT)	SKOOME COUNTY		1.	
000200	TURBIDITY, J.T.U.	27el 3 s n a u	• •	0.5	LT
000300.	DOOR, HOT	ECEINE	H	1.0044	
000501	NITROGEN, AMMONIA AS N		MG/L	0.05	
000709	NITROGEN, NITRITE AS N	•	MCG/L	4 •	
000801	NITROGEN, NITRATE, AS N	1	MG/L	0.1	LT
001001	CHLORIDES		MG/L	12.	
001101	HARDNESS, TOTAL AS CA	003	MG/L	160.	
001501	ALKALINITY MTH OR AS	CACO3	MG/L	150.	
001900	PH (LABORATORY)			8.1	
006401	NITROGEN, KJELDAHL, INC	L. AMM	MG/L	0.05	
008501	CHEMICAL DXYGEN DEMAN	10	MG/L	4.	LT
010001	IRON	•	MG/L	0.06	

DATE COMPLETEDS 1/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION RROUME-GOUNTY HEALTH DEPT 6A WATER STREET BINGHAMTON N.Y. 13901

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAB ACCESSION NO: 00690 YR/MO/DAY/HR SAMPLE RECID: 75/01/20/08

REPORTING LAB: 33 SYRAGUSE LAB
PREGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION
STATION (SOURCE) NO:
DEAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME
COORDINATES: DEG + "N, DEG + "W
COMMON NAME INCL SUBWISHED: OQUAGA STATE PARK

EXACT SAMPLING POINT: WELL 4 WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 01/17/14

REFORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER		UNIT	RESULT	NOTATION
010201	MANGANESE	MG/L	0.19	
010701	SODIUM	MG/L	50.	
100300	ODOR. COLD		1.0044	

DATE CONPLETED: 1/24/75

DYRECTOR OF ENVIRONMENTAL SANITATION BROOME COUNTY HEALTH DEPT 6A WATER STREET BINGHAMTON, N.Y. 13901

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